



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/629,385 | 07/29/2003 | Yi-Lang Ku | 67,200-837 | 6515 |

7590 06/27/2006

TUNG & ASSOCIATES
838 W. Long Lake Road, Suite 120
Bloomfield Hills, MI 48302

| |
|----------|
| EXAMINER |
|----------|

CECIL, TERRY K

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1723

DATE MAILED: 06/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/629,385

Applicant(s)

KU, YI-LANG

Examiner

Mr. Terry K. Cecil

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7-13,15-19 and 21-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7-13,15-19 and 21-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7-29-2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 9-13, and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are indefinite because of the following reasons:

- The following terms lack antecedent basis: “said filter housing lower end” (claim 9, line 17-18).
- The balance of the claims are rejected since they suffer the same defects as the claims from which they depend.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

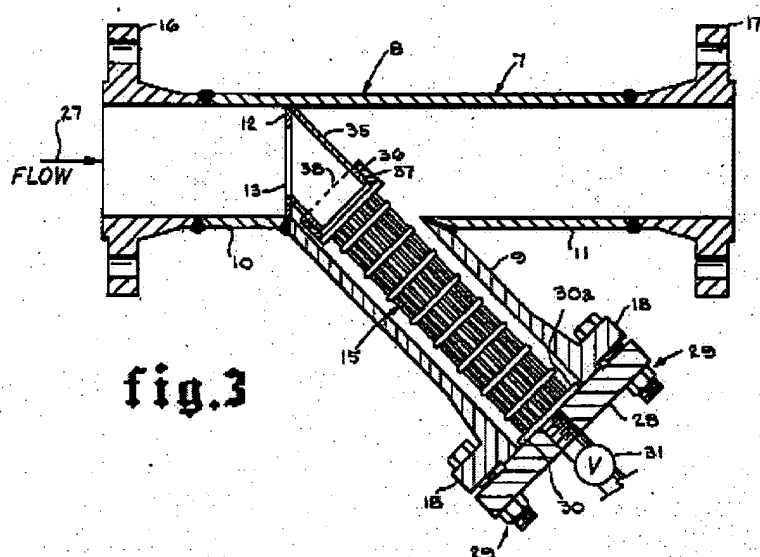
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

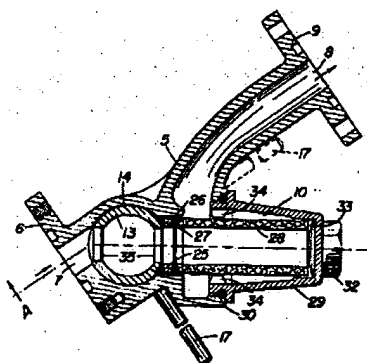
Art Unit: 1723

4. Claims 1-2, 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tullier et al. (U.S. 4,051,042) in view of Billeter (U.S. 3,748,837) and Farrell et al. (U.S. 3,011,644). Tullier teaches a Y-strainer including a removable filter (15 + the flanges thereof)

**fig.3**

within a housing 9 extending at an obtuse angle from the longitudinal axis of the elongated conduit 7 and the direction of fluid flow. The filter extends from the housing and into the conduit to intercept fluid flowing therein. The lower end of the housing includes a drain valve

31 (since the valve is open-able it has the ability to perform the intended use of “for flushing said filter without interrupting said fluid flow through said conduit”) [as in claims 1-2]. Flanges 16-17 are provided at the end of the conduit [as in claim 7]. Tullier doesn’t teach a conical filter



housing but such is taught by Billeter as shown by is housing 10 of figure 2. It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the housing 9 of Tullier to be conical, as in Billeter since Billeter teaches the benefits of centering and supporting the

filter (col. 2, lines 9-16). Upon modification the drain valve 31 would be on the smaller diameter end of the housing [as in claim 1]. It is also pointed out that Tullier teaches changes in shape for his invention (col. 2, lines 64-68).

Art Unit: 1723

Tullier, modified by Billeter doesn't teach a cap opening and cap in the conduit for removing and replacing the filter. However, such a cap 18 and opening is taught by Farrel as shown in fig. 1.

It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the cap 18 of Farrel top of the conduit of the modified Tullier since Farrel teaches the benefit of insertion and removal of the screen (col. 2, lines 22-28). Such would also provide an additional access for the filter from above when the bottom thereof is not accessible depending upon where the filter is installed.

5. Claims 1-5, 7-12, 15-18, and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted (of figures prior art 1 and 2) in view of Cheng (U.S. 4,048,067) and Farrell. Applicant's admitted prior art of figures 1 and 2 teaches the use of a y-strainer in the drain line of both a cooling tower 36 and a wet scrubber 2 and the admitted prior art of figure 3 teaches a filter housing angled obtuse from an elongated conduit and extending to a curved surface thereof [as in claims 21-23] but does not teach a drain valve in the filter housing nor the conical housing and conical filter nor the cap opening and cap in the conduit. However, Cheng teaches a conical filter and housing, as well as a drain valve in a lower end. It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention for the housing 30 of applicant prior art to be conical as in Cheng and to include a drain valve, since Cheng teaches the benefit of continuously removing solids from liquids (col.1, lines 33-35) that is enhanced (col. 1, lines 54-62), wherein incoming water washes away solids (col. 4, lines 33-35).

Art Unit: 1723

Farrel teaches a cap 18 and opening in a conduit as shown in fig. 1.

It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the cap 18 of Farrell in top of the conduit of applicant's figures as modified by Cheng above, and for the filter of applicant's prior art to be removable since Farrell teaches the benefit of insertion and removal of the screen (col. 2, lines 22-28). Such would also provide an additional access for the filter from above when the bottom thereof is not accessible depending upon where the filter is installed.

6. Claims 13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (of figures 1 and 2) in view of Cheng and Farrell, as applied above, and in further view of Drori (U.S. 4,207,181). Drori teaches a drain valve 328 controlled by actuator/sensor 344/342 communicating with pressure monitoring nipples 368 and 352 [as in claims 13 and 19]. It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the control means of the Y-strainer of Drori in the Y-strainer of applicant's admitted prior art, as modified above, since Drori teaches the benefit of automatic filter flushing.

Response to Arguments

7. Applicant's arguments filed 6-15-2006 have been fully considered but they are not persuasive because of the following reasons:

- Applicant argues (page 14) that Tullier doesn't teach a conical filter housing. However, it is pointed out that Billeter was relied upon for this limitation and that upon modification, the drain valve would be in the smaller diameter end. Also, as explained in the office action, the drain valve of the modified Tullier has the ability to be opened for flushing without interrupting the fluid flow (it is pointed out that such a limitation is more conducive to a method claim).
- Applicant argues (pages 14-15) that the ball valve of Billeter would not work in the invention of Tullier. However, it is pointed out that Tullier is not being modified with the ball valve of Billeter only for his teachings of a conical housing. Despite applicant's remarks to the contrary (page 16) the housing of Billeter shown in his figure is substantially a conical shape.
- Concerning Farrell, applicant argues (page 20), that Tullier could not be modified to include the cap opening thereof because of the welded plates 12 of Tullier. This is not found to be convincing, since the plate of Tullier does not have to be welded (see claim 1 thereof) but only requires it to be "sealably secured in position by any suitable means" (col. 1, lines 37+). The skilled man would realize the securement could be a friction fit releasable by the removable cap of Billeter since such fits are well known.
- In this new rejection, Cheng is not being relied upon for teachings of a removable filter nor a removable cap but for his conical and drain valve teachings. The examiner contends that the reasons presented above are sufficient motivation for the modification.

Art Unit: 1723

8. Contact Information:

- Examiner Mr. Terry K. Cecil can be reached at (571) 272-1138 at the Carlisle campus in Alexandria, Virginia for any inquiries concerning this communication or earlier communications from the examiner. Note that the examiner is on the increased flextime schedule but can normally be found in the office during the hours of 8:30a to 4:30p, on at least four days during the week M-F.
- Wanda Walker, the examiner's supervisor, can be reached at (571) 272-1151 if attempts to reach the examiner are unsuccessful.
- The Fax number for this art unit for official faxes is (571) 273-8300.
- Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Mr. Terry K. Cecil
Primary Examiner
Art Unit 1723

TKC
June 26, 2006